

WHAT IS CLAIMED IS:

5nb. a3 > 1. A forming system for forming workpieces, comprising at least one forming tool, and at least one machining device with a local energy feed for machining the workpieces is arranged as a separate station within the forming system.

2. The system according to claim 1, wherein the at least one machining device, is configured to carry out a beam machining on the workpieces.

3. The system according to claim 1, wherein the at least one machining device is one of a laser beam machining device, a water jet machining device, a plasma jet machining device, a sandblasting machining device, and a combination thereof.

4. The system according to claim 1, wherein the at least one machining device, is configured to feed electromagnetic energy into the workpieces.

5. The system according to one of claims 1, wherein the at least one machining device is provided with at least one machining element for machining the workpieces.

SUB B3  
6. The system according to claim 5, wherein the at least one machining element is movable in a path-controlled manner with respect to the workpieces.

7. The system according to claim 5, wherein the workpieces are arranged to be movable in a path-controlled manner with respect to the at least one machining element.

8. The system according to claim 5, wherein the at least one machining element is mounted on a manipulation device which is operatively linked into the forming system.

9. The system according to claim 8, wherein the at least one manipulation device is configured to be movable at least in one of at least two axial directions and swivellable about at least one swivelling axis.

10. The system according to claim 8, wherein the at least one manipulation device is programmable.

11. The system according to claim 8, wherein the at least one manipulation device comprises a cross table having at least one longitudinal traverse and at least one cross traverse.

12. The system according to claim 11, wherein the cross traverse is configured to be diagonally adjustable in a guiding plane thereof.

13. The system according to claim 8, wherein the at least one manipulation device is one of a parallel-kinematics robot and a swivel arm robot.

14. The system according to claim 8, wherein the at least one manipulation device comprises a plate-shaped element with at least one linear guide element arranged thereon.

15. The system according to claim 8, wherein the at least one manipulation device comprises an overhead gantry.

16. The system according claim 8, wherein the at least one manipulation device comprises a plurality of manipulation devices configured to be movable independently of one another within a machining device.

17. The system according to claim 5, wherein the at least one machining element is fixedly integrated in the forming system.

18. The system according to claim 5, wherein the at least one machining element is comprises a laser head.

Sub a4 19. The system according to claim 5, wherein the at least one machining device is arranged within at least one of the forming tool.

20. The system according to claim 19, wherein the at least one machining device is operatively arranged in at least one of a recess of a tool top part and a tool bottom part of the at least one forming tool.

21. The system according to claim 20, wherein the at least one machining device is arranged by way of a manipulation device in or on one of the tool top part and the tool bottom part.

22. The system according to claim 20, wherein the at least one machining device is stationarily arranged in one of the tool top part and the tool bottom part.

Sub C11 23. The system according to claim 1, wherein the forming system comprises a multi-station forming system with plural several forming stations.

24. The system according to claim 23, wherein the at least one machining device is arranged between two forming stations.

25. The system according to claim 1, wherein the workpieces are metal sheets.

26. The system according to claim 1, wherein two or more machining stations are arranged parallel to one another and are operatively connected behind or in front of a common forming station.

SUB 34 > 27. A process for forming workpieces by means of at least one forming tool, comprising carrying out a machining of the workpieces by at least one machining device with a local energy feed in a system cycle.

28. The process according to claim 27, wherein for machining of the workpieces, a relative movement takes place between the at least one machining device and the workpieces.

29. The process according to claim 28, wherein the relative movement is carried out in a path-controlled manner.

30. The process according to claim 27, wherein at least one of a cutting machining, a welding machining, an application machining, a removal machining, and a machining for the thermal treatment of the workpieces is carried out by the at least one machining device.